

CLAIMS:

1. A multiple working range optical system comprising an optical assembly having first and second optical elements and associated respective first and second narrow band optical filters for producing narrow band images of objects at respective first and second working ranges.
2. A system according to claim 1 including a selectable filter array having first and second selectable filters, and a switch mechanism for selecting the first or second working ranges, whereby:
- (a) when the first working range is selected, light from an object is imaged by the first optical element in a narrow band defined by the first narrow band optical filter and the first selectable filter; and
- (b) when the second working range is selected, light from an object is imaged by the second optical element in a narrow band defined by the second narrow band optical filter and the second selectable filter.
3. A system according to claim 1 wherein the selectable filter array comprises a plurality of movable filters.
4. A system according to claim 1 wherein said first and second optical elements are arranged to image objects at their respective working ranges at a coincident image plane.
5. A system according to claim 4 including a photographic film at said image plane.

5 7. A system according to claim 1 including a multi-focus lens defining said
first and second optical elements.

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wherein said first

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code scanning
claim
any one of

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14. A scanner according to claim 12 wherein said light beam is directed outwardly and downwardly when the scanner is being worn as a pendant.

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18. A point of sale station including an optical scanning station according to ~~any one of claims 15 to 17.~~ *claim 17*

~~any one of claims 15 to 17.~~

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24. ~~An optical scanner according to claim 23 wherein said signal separator includes a bandpass filter.~~

25. An optical scanner according to claim 19 arranged to detect an indicia at a first working distance using the first laser beam and to detect an indicia at a second working distance using the second laser beam.

5 26. An optical scanner according to claim 19 wherein said lasers are pulsed at a frequency which is greater than twice the highest frequency to be found in the electrical signals produced by the detector.

10 27. A multi scan-pattern optical scanner including a laser assembly for producing a plurality of laser beams of differing wavelengths and a scanning mechanism including a wavelength selector for selectively passing a beam of predefined wavelength thereby producing at least a first scan pattern from a beam which is passed by the selector and a second scan pattern from a beam which is stopped by the selector.

15 28. A scanner according to claim 27 wherein the wavelength selector includes a wavelength-selective coating.

20 29. A scanner according to claim 28 wherein the coating is arranged to pass at least one of the laser beams and to absorb at least another of the laser beams.

30. A scanner according to claim 28 wherein the coating is a mirror coating.

25 31. A scanner according to claim 30 wherein the coating is applied to a moving mirror.

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33. A scanner according to claim 30 wherein the scanning mechanism includes
5 a moving assembly having a plurality of mirror elements, the coating being
applied to some but not all of the elements.

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39/ A method of reading optically encoded information comprising the steps
of:

- (a) providing first and second different laser beams;
- (b) illuminating with said laser beams a field of view including encoded information;
- (c) detecting light resulting from said first and second laser beams being reflected from the field of view, and
- (d) deriving from said detected light the encoded information.

40. A method according to Claim 39 wherein the first and second laser beams are of differing frequencies.

41. A method according to Claim 39 wherein the first and second laser beams are pulsed so that at any time only a single beam illuminates the field of view.

42. A method according to Claim 41 wherein each beam pulse is of sufficient duration to permit scanning of an entire symbol.

43. A method according to Claim 39 wherein said first and second laser beams are scanned across said field of view, said first beam being scanned in a first direction and said second beam being scanned in a second, different, direction.

44. A method according to Claim 39 wherein said deriving step uses data from reflection of both said first and said second beams.

45. A method of reading optically encoded information comprising the steps of:

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